

1 3 (cancelled).

1 4 (cancelled).

1 11. (currently amended) Methods for the production of mixed alcohols including the steps
2 of:
3 using a sulfided, nanosized transition metal catalyst selected from Group VI metals;
4 nanosizing the Group VI transition metal catalyst by selecting Group VI metals, and
5 mixtures thereof, and then nanosizing said Group VI metals and mixtures thereof to a mean
6 particle diameter [in the range of about 1 nm to] of about 100 nm ;
7 suspending the Group VI transition metal catalyst in a liquid to form a slurry; and
8 contacting said slurry with gases including carbon monoxide and hydrogen at a temperature in
9 the range of about 250° C to about 325° C and at a pressure in the range of about 500 psig to
10 about 3000 psig, to thereby produce mixed alcohols.

1 12. (original) The method of claim 11 wherein the nanosized Group VI transition metal catalyst
2 is sulfided prior to its use in producing mixed alcohols from gases including carbon monoxide
3 and hydrogen.

1 13. (original) The method of claim 11 wherein the nanosized Group VI transition metal
2 catalysts are selected from Cr, Mo and W, and mixtures thereof.

1 14. (original) The method of claim 12 wherein the nanosized Group VI transition metal
2 catalysts, and mixtures thereof of claim 3 are produced including the step of sulfiding said
3 nanosized Group VI transition metal catalysts, and mixtures thereof.

1 15. (original) The method of claim 14 wherein the nanosized Group VI transition metal
2 catalysts, and mixtures thereof, are selected from Cr, Mo and W, and mixtures thereof.

1 16 (cancelled).